

# SEQUENCE LISTING

<110> Soll, Dieter

<120> Glu-tRNA-Gln Amidotransferase- A Novel Essential  
Translational Component

<130> 03818/0200029

<140> US 09/355,622

<141> 1999-09-23

<150> US 60/037,275

<151> 1997-02-03

<150> PCT/US 98/01860

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<170> PatentIn Ver. 2.1

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385	390	395	400	
gct gag aag att gtg aaa gag aaa ggc ctt gtt cag att tct gac gaa				1248
Ala Glu Lys Ile Val Lys Glu Lys Gly Leu Val Gln Ile Ser Asp Glu				
	405	410	415	
ggc gtg ctt ctg aag ctt gtc act gag gcg ctt gac aac aat cct caa				1296
Gly Val Leu Leu Lys Leu Val Thr Glu Ala Leu Asp Asn Asn Pro Gln				
	420	425	430	
tca atc gaa gac ttt aaa aac gga aaa gac cgc gcg atc ggc ttc cta				1344
Ser Ile Glu Asp Phe Lys Asn Gly Lys Asp Arg Ala Ile Gly Phe Leu				
	435	440	445	
gtc gga cag att atg aaa gcg tcc aaa gga caa gcc aac ccg ccg atg				1392
Val Gly Gln Ile Met Lys Ala Ser Lys Gly Gln Ala Asn Pro Pro Met				
	450	455	460	
gtc aac aaa att ctg ctt gaa gaa att aaa aaa cgc taa				1431
Val Asn Lys Ile Leu Leu Glu Glu Ile Lys Lys Arg				
465	470	475		

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<211> 476

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<213> Bacillus subtilis

<220>

<221> UNSURE

<222> (152)..(164)

<223> Xaa at amino acid 152 = Phe or Ser or Tyr or Cys.

Xaa at amino acid 164 = Ser or Pro or Thr or Ala.

<400> 6

Leu	Asn	Phe	Glu	Thr	Val	Ile	Gly	Leu	Glu	Val	His	Val	Glu	Leu	Lys
1				5				10					15		

Thr	Lys	Ser	Lys	Ile	Phe	Ser	Ser	Ser	Pro	Thr	Pro	Phe	Gly	Ala	Glu
			20					25					30		

Ala	Asn	Thr	Gln	Thr	Ser	Val	Ile	Asp	Leu	Gly	Tyr	Pro	Gly	Val	Leu
			35				40					45			

Pro	Val	Leu	Asn	Lys	Glu	Ala	Val	Glu	Phe	Ala	Met	Lys	Ala	Ala	Met
		50				55					60				

Ala	Leu	Asn	Cys	Glu	Ile	Ala	Thr	Asp	Thr	Lys	Phe	Asp	Arg	Lys	Asn
65					70					75					80

Tyr	Phe	Tyr	Pro	Asp	Asn	Pro	Lys	Ala	Tyr	Gln	Ile	Ser	Gln	Phe	Asp
				85				90						95	

Lys	Pro	Ile	Gly	Glu	Asn	Gly	Trp	Ile	Glu	Ile	Glu	Val	Gly	Gly	Lys
			100					105					110		

Thr Lys Arg Ile Gly Ile Thr Arg Leu His Leu Glu Glu Asp Ala Gly  
 115 120 125  
 Lys Leu Thr His Thr Gly Asp Gly Tyr Ser Leu Val Asp Phe Asn Arg  
 130 135 140  
 Gln Gly Thr Pro Leu Val Glu Xaa Val Ser Glu Pro Asp Ile Arg Thr  
 145 150 155 160  
 Pro Glu Glu Xaa Tyr Ala Tyr Leu Glu Lys Leu Lys Ser Ile Ile Gln  
 165 170 175  
 Tyr Thr Gly Val Ser Asp Cys Lys Met Glu Glu Gly Ser Leu Arg Cys  
 180 185 190  
 Asp Ala Asn Ile Ser Leu Arg Pro Ile Gly Gln Glu Glu Phe Gly Thr  
 195 200 205  
 Lys Thr Glu Leu Lys Asn Leu Asn Ser Phe Ala Phe Val Gln Lys Gly  
 210 215 220  
 Leu Glu His Glu Glu Lys Arg Gln Glu Gln Val Leu Leu Ser Gly Phe  
 225 230 235 240  
 Phe Ile Gln Gln Glu Thr Arg Arg Tyr Asp Glu Ala Thr Lys Lys Thr  
 245 250 255  
 Ile Leu Met Arg Val Lys Glu Gly Ser Asp Asp Tyr Arg Tyr Phe Pro  
 260 265 270  
 Glu Pro Asp Leu Val Glu Leu Tyr Ile Asp Asp Glu Trp Lys Glu Arg  
 275 280 285  
 Val Lys Ala Ser Ile Pro Glu Leu Pro Asp Glu Arg Arg Lys Arg Tyr  
 290 295 300  
 Ile Glu Glu Leu Gly Phe Ala Ala Tyr Asp Ala Met Val Leu Thr Leu  
 305 310 315 320  
 Thr Lys Glu Met Ala Asp Phe Phe Glu Glu Thr Val Gln Lys Gly Ala  
 325 330 335  
 Glu Ala Lys Gln Ala Ser Asn Trp Leu Met Gly Glu Val Ser Ala Tyr  
 340 345 350  
 Leu Asn Ala Glu Gln Lys Glu Leu Ala Asp Val Ala Leu Thr Pro Glu  
 355 360 365  
 Gly Leu Ala Gly Met Ile Lys Leu Ile Glu Lys Gly Thr Ile Ser Ser  
 370 375 380  
 Lys Ile Ala Lys Lys Val Phe Lys Glu Leu Ile Glu Lys Gly Gly Asp  
 385 390 395 400  
 Ala Glu Lys Ile Val Lys Glu Lys Gly Leu Val Gln Ile Ser Asp Glu  
 405 410 415

Gly Val Leu Leu Lys Leu Val Thr Glu Ala Leu Asp Asn Asn Pro Gln  
420 425 430

Ser Ile Glu Asp Phe Lys Asn Gly Lys Asp Arg Ala Ile Gly Phe Leu  
435 440 445

Val Gly Gln Ile Met Lys Ala Ser Lys Gly Gln Ala Asn Pro Pro Met  
450 455 460

Val Asn Lys Ile Leu Leu Glu Glu Ile Lys Lys Arg  
465 470 475

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<223> Subunit C, corresponds to nucleotides 103 - 393 of  
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Met Ser Arg Ile Ser Ile Glu Glu Val Lys His Val Ala His Leu Ala  
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aga ctt gcg att act gaa gaa gaa gca aaa atg ttc act gaa cag ctc 96  
Arg Leu Ala Ile Thr Glu Glu Glu Ala Lys Met Phe Thr Glu Gln Leu  
20 25 30

gac agt atc att tca ttt gcc gag gag ctt aat gag gtt aac aca gac 144  
Asp Ser Ile Ile Ser Phe Ala Glu Glu Leu Asn Glu Val Asn Thr Asp  
35 40 45

aat gtg gag cct aca act cac gtg ctg aaa atg aaa aat gtc atg aga 192  
Asn Val Glu Pro Thr Thr His Val Leu Lys Met Lys Asn Val Met Arg  
50 55 60

gaa gat gaa gcg ggt aaa ggt ctt ccg gtt gag gat gtc atg aaa aat 240  
Glu Asp Glu Ala Gly Lys Gly Leu Pro Val Glu Asp Val Met Lys Asn  
65 70 75 80

gcg cct gac cat aaa gac ggc tat att cgt gtg cca tca att ctg gac 288  
Ala Pro Asp His Lys Asp Gly Tyr Ile Arg Val Pro Ser Ile Leu Asp  
85 90 95

taa 291

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<211> 96  
<212> PRT  
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Met Ser Arg Ile Ser Ile Glu Glu Val Lys His Val Ala His Leu Ala  
1 5 10 15

Arg Leu Ala Ile Thr Glu Glu Glu Ala Lys Met Phe Thr Glu Gln Leu  
20 25 30

Asp Ser Ile Ile Ser Phe Ala Glu Glu Leu Asn Glu Val Asn Thr Asp  
35 40 45

Asn Val Glu Pro Thr Thr His Val Leu Lys Met Lys Asn Val Met Arg  
50 55 60

Glu Asp Glu Ala Gly Lys Gly Leu Pro Val Glu Asp Val Met Lys Asn  
65 70 75 80

Ala Pro Asp His Lys Asp Gly Tyr Ile Arg Val Pro Ser Ile Leu Asp  
85 90 95